



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,174	06/29/2001	Jian Li	884.497US1	2926

8791 7590 06/04/2003

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER

DICKEY, THOMAS L

ART UNIT	PAPER NUMBER
----------	--------------

2826

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/897,174

Applicant(s)

LI ET AL.

Examiner

Thomas L Dickey

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-26 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-16, 18-20, 27, 28 and 30 is/are rejected.
- 7) ☒ Claim(s) 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2826

DETAILED ACTION

1. The amendment filed on 11/13/2002 has been entered.

Election/Restriction

2. Applicant's election without traverse of claims 1-9, 11-16, 18-22, and 24-30 in paper No. 8 is acknowledged. Note that withdrawn claim 23 has since been rejoined due to allowance of a claim upon which it depends.

Oath/Declaration

3. The oath/declaration filed on 6/29/01 is acceptable.

Drawings

4. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 11/13/2002 have been approved.

Priority

5. Applicants have made no claim for priority.

Information Disclosure Statement

6. The Information Disclosure Statement filed on 6/29/01 has been considered.

Art Unit: 2826

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

A. Claims 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, namely, a means for making a ferroelectric polymer having the recited structure of $(\text{CH}_2\text{-CF}_2)_n$, $(\text{CHF-CF}_2)_n$, $(\text{CF}_2\text{-CF}_2)_n$, α -, β -, γ -, and δ - phases thereof, $(\text{CH}_2\text{-CF}_2)_n$ -(CHF-CF_2)_m copolymer, and combinations thereof, and, with respect to claim 20, further comprises a copolymer selected from β -phase $(\text{CH}_2\text{-CF}_2)_n$ -($\text{CHF}_2\text{-CF}_2$)_m copolymer, wherein $n + m = 1$, and wherein n is in a fraction range from about 0.6 to about 0.9. Applicant must also enable a means for disposing said ferroelectric polymer having said structure on a substrate having a protective film and a first electrode.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

B. Claims 1-9, 11-16, 18-20, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2826

In claim 1, last line, and again in the last line of claim 11, "the second protective film" has no antecedent basis.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 11, 12, 18-20, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by YOSHINAGA et al. (4,995,705).

Yoshinaga et al. discloses a memory article, and the necessary method of forming the same, comprising: a first electrode 2b (and forming the same) disposed on a substrate 1b; a ferroelectric polymer structure comprising a polymer layer 5 (and forming the same) disposed over the substrate 1b, a second protective film 4a (and forming the same) disposed over the ferroelectric polymer structure; and a second electrode 2a (and forming the same) disposed above and on the second protective film 4a, and further comprising a self-aligned first protective film 4b (and forming the same) disposed on the first electrode 2b. Note figure 9 and column 6 lines 33-36 of Yoshinaga et al. Note how first protective film 4b aligns perfectly with first electrode 2b, leaving no gaps or overlaps. With respect to claims 18, Yoshinaga et al. further discloses that the ferroelectric polymer structure comprises any of several commercially available polymers,

Art Unit: 2826

one or more of which are polyvinyls, or polyvinyl chlorides or fluorides. Note columns 21 and 22 of Yoshinaga et al.

The applicant's claim 30 does not distinguish over the Yoshinaga et al. reference regardless of the process used to form the polymer layer 5, because only the final product is relevant, not the recited process of spinning on the polymer layer:

Note that a "product by process" claim is directed to the product per se, no matter how actually made. In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear. See also MPEP 706.03(e).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2826

A. Claims 5,8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOSHINAGA et al. (4,995,705).

Yoshinaga et al. discloses a method with all the limitations of claims 4,5,8, and 9, including forming the protective films to comprise metal oxide or nitride or titanium oxide or nitride; note column 6 lines 48-55, except forming the first electrode using CVD and forming the second electrode using CVD to meet claims 5 and 8 or else not using CVD to form the second electrode, rather using PVD, as claimed in claim 9. Note figure 9 and column 6 lines 33-36 of Yoshinaga et al. Although Yoshinaga et al.'s device does not teach the exact method of deposition as that claimed by Applicant, the deposition method differences are considered obvious design choices and are not patentable unless unobvious or unexpected results are obtained from these changes. It appears that these changes produce no functional differences and therefore would have been obvious. Note *In re Leshin*, 125 USPQ 416.

B. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOSHINAGA et al. (4,995,705) in view of SAITOU et al. (6,141,309).

Yoshinaga et al. discloses a memory system comprising a substrate 1b, a first electrode 2b disposed on the substrate 1b; a first protective film 4b disposed above and on the first electrode 2b; an ferroelectric polymer structure 5 disposed over the substrate 1b and the first protective film 4b; a second protective film 4a disposed over the ferroelectric polymer structure 5; and a second electrode 2a disposed above and on the second protective film 4a. Note figure 9 and column 6 lines 33-36 of Yoshinaga et al.

Art Unit: 2826

Yoshinaga et al. does not disclose a signal interface, being a PCMCIA or desktop expansion slot interface, or compact flash, memory stick or removable medium interface, and a host.

However, Saitou et al. discloses a memory system with signal interface, being a PCMCIA or desktop expansion slot interface, and a host (desktop or laptop computer). Note figures 33-38 of Saitou et al. Therefore, it would have been obvious to a person having skill in the art to augment Yoshinaga et al.'s memory system with the signal interface, being a PCMCIA or desktop expansion slot interface, and the host (desktop or laptop computer), such as taught by Saitou et al. in order to supply the memory system with physical protection, structural support, and a logical system for input/output to thus provide the necessary means for storing and retrieving data from the memory system.

Allowable Subject Matter

10. Claims 21-26 are allowed over the references of record for the following reasons: Yoshinaga et al. discloses a cross-point matrix polymer memory with all the limitations of claims 21-26, including first and second refractory metal nitride or oxide (note column 6 lines 48-55) except the limitation that both the first and second electrodes be made of aluminum. Yoshinaga et al. discloses a first electrode made of aluminum, but in each of the examples given by Yoshinaga et al., at least the second electrode is ITO or some similar transparent conductor. Because Yoshinaga et al. provides for reading the cross-

Art Unit: 2826

point matrix polymer memory optically, through the second electrode, it would not have been obvious to one having ordinary skill in the art to substitute aluminum for ITO in the second electrode. Note that claim 23 has been rejoined upon allowance of claim 21.

11. Claims 4,6,7, and 13-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 703-308-0980. The examiner can normally be reached on Mon-Thu 8-6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 703-308-0980. The examiner can normally be reached on Mon-Thu 8-6.

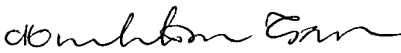
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (703) 308-6601. The fax phone numbers

Art Unit: 2826

for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TLD
05/2003


Minhloan Tran
Primary Examiner
Art Unit 2826